

## First Principles Identification of New Aircraft Materials, Phase I

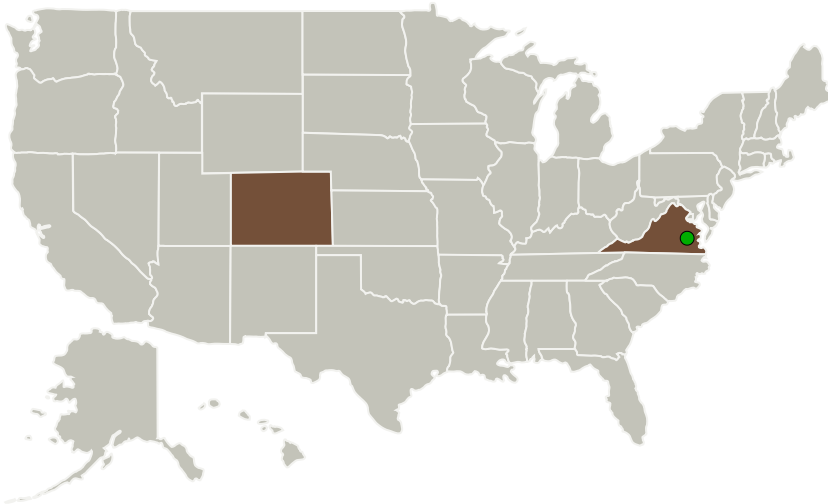
Completed Technology Project (2011 - 2011)



## Project Introduction

The identification of new, structurally sound, thermally stable materials for aviation applications will enable a wide range of technologies. The identification of new materials is hindered by the lack of information about compositions outside the existing composition space. New materials and new methodologies for selection of these materials are essential. Eltron will develop a correlational/theoretical approach to materials selection that follows its previous work in the selection of cathode electrocatalysts, oxygen evolving anodes for high temperature melts, solid electrolytes, and mixed ion/electron conducting materials. This approach will allow the exploration of composition properties space by the use of existing data. Phase I will develop and demonstrate a model for selection of new materials and confirm predictions by synthesizing new materials.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Eltron Research & Development, Inc.	Lead Organization	Industry	Boulder, Colorado
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia



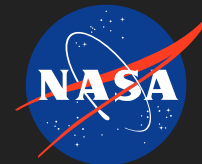
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## Primary U.S. Work Locations

Colorado

Virginia

## Project Transitions

 **February 2011:** Project Start

 **September 2011:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138163>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Eltron Research & Development, Inc.

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

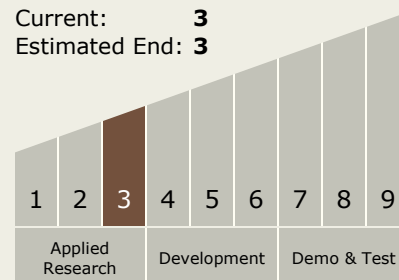
James White

## Technology Maturity (TRL)

Start: **3**

Current: **3**

Estimated End: **3**



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## Technology Areas

### Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - └ TX12.1 Materials
    - └ TX12.1.2 Computational Materials

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System